

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of data transmission over a network, comprising:

in a first phase during a transmission cycle, sending solely realtime data telegrams over the network;

in a second phase during the transmission cycle, sending at least one of realtime data telegrams and non-realtime data telegrams over the network; and

in a third phase during the transmission cycle, sending at least one of realtime data short filler telegrams and non-realtime data telegrams while suppressing the transmission of those of the non-realtime data telegrams for which the transmission cannot be concluded during the third phase,

wherein the third phase is followed by a new transmission cycle with a new first phase, during which solely further realtime data telegrams are sent, and

wherein the non-realtime data telegrams contain user application data.
2. (original): The method as claimed in Claim 1, wherein the network comprises an Ethernet.
3. (original): The method as claimed in Claim 1, wherein said sending comprises forwarding the data telegrams.

4. (original): The method as claimed in Claim 1, implemented on a switching router, whereby the switching router has at least four transmission priorities.

5. (currently amended): The method as claimed in Claim 1, wherein ~~short filler~~
~~telegrams are sent in the third phase, and~~ transmission of the short filler telegrams is concluded before the new first phase is started.

6. (original): The method as claimed in Claim 1, further comprising performing a time synchronization of the switching routers.

7. (original): The method as claimed in Claim 6, wherein the time synchronization is performed with a calculation of a delay between two nodes of the network in combination with a synchronization signal.

8. (original): The method as claimed in Claim 1, wherein the network is designed as a line.

9. (currently amended): A switching router for data transmission over a network, having at least four implemented priorities and configured to:

send exclusively realtime data telegrams over the network in a first phase of a transmission cycle in accordance with the priorities;

send at least one of realtime data telegrams and non-realtime data telegrams over the network in a second phase of the transmission cycle in accordance with the priorities; and

send at least one of ~~realtime data-short filler~~ telegrams and non-realtime data telegrams but suppress, in accordance with the priorities, the transmission of those of the non-realtime data telegrams in a third phase of the transmission cycle for which the transmission cannot be concluded during the third phase,

wherein the non-realtime data telegrams contain user application data.

10. (original): The method as claimed in Claim 9, wherein the network comprises an Ethernet.

11. (original): The method as claimed in Claim 9, wherein the sending comprises forwarding the data telegrams.